

Date: Tue, 27 Apr 93 09:51:10 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #503
To: Info-Hams

Info-Hams Digest Tue, 27 Apr 93 Volume 93 : Issue 503

Today's Topics:

 AM Modulation Question
 AM Moulation Question (4 msgs)
 Icom IC-H16 mods?
 Index to CQ, HR, & QST Available ?
 Motorola P210 & HT800
 Need Advice on VHF Radios
 no-code defense (2 msgs)
 Paddle key question
 pro-2006 recall for new improved model
 Test passed, tickets on the way!

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 26 Apr 93 20:48:37 GMT
From: ogicse!emory!gatech!asuvax!chnews!joshua!jbromley@network.UCSD.EDU
Subject: AM Modulation Question
To: info-hams@ucsd.edu

In article <747@radio.nl.nuwc.navy.mil> keith@radio.nl.nuwc.navy.mil writes:

[stuff deleted]

>Maybe someone else can answer this question... do they still make AM
>broadcast transmitters with conventional modulators, or has everyone gone
>to more efficient methods?
>

>Regards,
>Keith (WA2Q)

The latest-style solid-state MF AM broadcast transmitters use a system that has a number of gated RF amplifiers driven by an audio A/D converter. With no modulation (carrier only), 1/4 of the amplifiers are turned on. When the modulating audio goes positive, more amplifiers are gated on until the 4 x carrier power point is reached on the audio peak. For a negative peak, the amplifiers supplying the carrier power are successively turned off until zero carrier is reached. All of the amplifier outputs are combined in a hybrid network that prevents the gated-on amplifiers from feeding the gated-off units. All the RF amplifiers run Class-C for efficiency.

I saw a 5-kW transmitter from Harris (the old Gates Radio) at NAB last year that used this method.

```
+-----+-----+
| Jim Bromley W5GYJ | Celebrating 30 years as a No-Code Technician |
| Intel Corp. m/s CH3-91 | |
| 5000 W. Chandler Blvd. | |
| Chandler,AZ 85226 | |
| tel: 602-554-5183 | Internet: jrbromley@sedona.intel.com |
+-----+-----+
```

Date: 26 Apr 93 19:47:36 GMT
From: sdd.hp.com!hpscit.sc.hp.com!news.dtc.hp.com!srngenprp!alanb@decwrl.dec.com
Subject: AM Moulation Question
To: info-hams@ucsd.edu

Mr S Browne (esrlb@csv.warwick.ac.uk) wrote:

: High-level modulation can be used in SSB systems, ...

: Drawbacks to the operation of this system include time-delays in the
: phase/amplitude streams, imperfect high-level modulation (PA output voltage
: not truly linear with applied 'DC'), and AM-to-PM conversion due to non-linear
: reactance effects of device. ...

Another drawback is that the amplitude modulation must be DC-coupled.
You can't use a modulation transformer.

AL N1AL

Date: Mon, 26 Apr 1993 14:35:28 GMT

> 30's anyway!) who enjoy plate modulated AM with vintage gear
> on the ham bands. Check 29.0-29.2 when 10 is open, or 3880
> and thereabouts in the evenings.
> 73/john

Not to mention that is is completely discriminatory to those of us who
use screen-grid modulation.
--scott

Date: 26 Apr 93 18:48:31 GMT
From: swrinde!gatech!paladin.american.edu!europa.eng.gtefsd.com!darwin.sura.net!
zaphod.mps.ohio-state.edu!uwm.edu!biosci!agate!doc.ic.ac.uk!warwick!warwick!not-
for-mail@network.UCSD.EDU
Subject: AM Moulation Question
To: info-hams@ucsd.edu

In article <1rh42k\$c8l@hpscit.sc.hp.com> rkarlqu@scd.hp.com (Richard Karlquist)
writes:

>
>Actually, plate modulation has been obsolete for at least 25 years.
>What is done in modern broadcast transmitters is to build a matched
>pair of transmitters, each of which puts out half the total power.
>The audio is applied to them as *phase-modulation*. The two transmitters
>are summed together at the outputs in a high-power combiner hybrid
>which feeds the antenna. I don't remember what the phase relationship
>of the combiner is, or the phase relationship of the audio modulation, but
>I know it has been in use for decades at AM radio stations. The reason
>why this can work is that a narrow band phase modulation signal is
>identical to an AM signal, except that the carrier is 90 degrees out
>of phase in the PM case.
>
>Rick N6RK

This technique is often termed 'LINC', from LInear amplification using
Non-linear Components.
Rick has given the basic idea, but perhaps the following may help to
explain what's happening:

AM signal, $S(t) = E(t) \cos(\omega t)$, ωt being radian carrier freq.

This vector can also be generated by

$$S(t) = E_m/2[\sin(\omega t + \phi) - \sin(\omega t - \phi)]$$

where E_m is the maximum value of $E(t)$, and ϕ is the angle necessary to
satisfy the equality. If you can think of ' $\cos(\omega t)$ '

as the x-axis and 'sin(omega t)' as the y-axis (i.e. freeze the signal wrt carrier frequency), then plotting the above terms can reveal all. That's all there is too it (hmmm.....).

The AM signal is therefore separated into two signals of constant amplitude which can be individually amplified in high-efficiency stages and then summed at the output to produce an amplified version of the original. Easy, innit?

Simon GOGWA.

Date: 26 Apr 1993 05:29:49 GMT
From: saimiri.primite.wisc.edu!zaphod.mps.ohio-state.edu!howland.reston.ans.net!
usenet.ins.cwru.edu!neoucom.edu!news.ysu.edu!yfn.ysu.edu!am357@ames.arpa
Subject: Icom IC-H16 mods?
To: info-hams@ucsd.edu

Does anybody know if there are any mods for the Icom IC-H16.
I have heard that there is a book that describes some sort of possible modifications for the radio. If you know what they do, could you possibly describe their function or post them for me. Thanks!

Matt Adair am357@yfn.ysu.edu

Date: 26 Apr 1993 08:39:14 -0400
From: yale.edu!nigel.msen.com!ilium!gdls.com!gdls.com!not-for-mail@yale.arpa
Subject: Index to CQ, HR, & QST Available ?
To: info-hams@ucsd.edu

I seem to remember someone advertising a machine readable index to some ham radio magazines. Now that I am looking for it, I can't find it.

Does anyone have any pointers to consolidated or individual indexes to the amateur radio literature?

Thanks

Bill

--

Bill Turini, KA4GAV
Computer Sciences Corporation
6000 E. 17 Mile Road
Sterling Heights, MI 48313

Chief, Technical Systems
turini@gdls.com
(313) 825-8810

Date: 25 Apr 93 23:22:00 GMT
From: pipex!uknet!almac!martin.briscoe@uunet.uu.net
Subject: Motorola P210 & HT800
To: info-hams@ucsd.edu

Request for information on behalf of a friend.

Has anyone any information on programming Motorola P210 & HT800 sets.

Martin GM8AOB

Martin

* 1st 1.10b #405 * Martin Briscoe - Fort William - Inverness-shire - Scotland

Date: 26 Apr 93 19:23:31 GMT
From: ogicse!emory!news-feed-1.peachnet.edu!umn.edu!csus.edu!netcom.com!
btoback@network.UCSD.EDU
Subject: Need Advice on VHF Radios
To: info-hams@ucsd.edu

Having just passed my Advanced after over 10 years away from ham radio,
I'm looking at my equipment and thinking...

First, I have a Yaesu FT208R 2m HT that doesn't want to transmit. (Maybe it knows that I haven't gotten my ticket back yet :-). Whenever I try to transmit, no matter what position the "shift" knob is set to, the radio beeps and the display shows an "E". This typically indicates that the selected frequency and shift would result in an out-of-band transmission, but the radio does that even when the shift is set to Simplex. I figure it's a computer problem -- after all, the little lithium cell that keeps it alive is now almost fifteen years old -- but I can't find a reset, and the manual doesn't describe one. Any suggestions?

Second, I'm looking for another HT, preferably one that will cover 70cm as well as 2m. I know there are a bunch of these, but I'm also looking for something will receive AM on the aircraft band (I'm willing to do some mods), and -- pushing it, I know -- transmit AM on the aircraft band as well. If anyone knows of a radio that might come close, I'd like to hear about it. (I'm looking for all of this in one box, of course!)

Thanks,
-- Bruce Toback

Date: Sun, 25 Apr 1993 00:56:06 EST
From: anomaly.sbs.com!n1mpq!news@uunet.uu.net
Subject: no-code defense
To: info-hams@ucsd.edu

kd1hz@anomaly.sbs.com (Rev. Michael P. Deignan) writes:

```
> miked@nauvax.ucc.nau.edu writes:
>
>>I am currently a no-code (N7YIR). I plan to upgrade as soon as I am finishe
> d
>>with school. My wife and I are both full-time students and we have two kids
>>so I do not have a lot of "extra" time to study code.
>
> If you're so busy, how did you have time to study the Element 2 and 3A
> question pools?
```

Study? Who said anything about that. It's all rote memorization dude.
Same as we did with our 4B's. :)

Tony

```
-----
-- Anthony S. Pelliccio, kd1nr/ae      // Yes, you read it right, the //
-- system @ garlic.sbs.com           // man who went from No-Code //
-----// (Thhhppptt!) to Extra in //
-- Flame Retardent Sysadmin          // exactly one year! //
-----
-- This is a calm .sig! --
-----
```

Date: 26 Apr 93 16:29:52 GMT
From: btg!btg.com!rusty@uunet.uu.net
Subject: no-code defense
To: info-hams@ucsd.edu

In article <1993Apr26.011456.288@n5ial.mythical.com> jim@n5ial.mythical.com (Jim Graham) writes:

>Rich, KD6GZW [yes, no-code, and no-particular-desire-to-learn-it-either]

wait a minute.... I thought the no-code technician license was getting

a 1x3 call, just like the w/ code technician and general class folks.
doesn't a 2x3 call mean that you started out as a novice? and if so,

Nope. It may mean that region 6 ran out of 1x3 calls for technicians. In 4-land this has happened and Novices, Tech's, and Generals all get 2x3 calls. Advanced and Extras here are getting 2x2, I think. So, me being a new Tech with a 2x3 could be getting another 2x3 when I upgrade to General this summer (I hope). Suggest you get a copy of "QST" -- there the ARRL prints a chart showing the callsigns handed out by the FCC for each region and class level at the beginning of the month. (actually, 2-months before the month of publication due to lead times). More recent data can be found in the ARRL's bulletins transmitted from HQ.

-Rusty-

--

```

  ----- Rusty Haddock ### KD4WLZ -- Weird Looking Zucchini
| \ /   o \   o  DOMAIN:rusty@btg.com      UUCP:uunet!btg!rusty
|   (  -<  0 o  If someone points a quad-vectored, hyper-thermic, cosmo blaster
| / \__V__ /      at you it's a safe bet that you're about to become toast.

```

Date: Mon, 26 Apr 1993 15:34:12 CET
From: haven.umd.edu!darwin.sura.net!newsserver.jvnc.net!gmd.de!dearn!esoc!
wkoehler@ames.arpa
Subject: Paddle key question
To: info-hams@ucsd.edu

In article <930424.090656.4n7.rusnews.w165w@garlic.sbs.com>,
system@garlic.sbs.com (Anthony S. Pelliccio) says:
>mulvey@world.std.com (Richard K Mulvey) writes:
>> Can anyone tell me if there is a convention when hooking up paddles: i.e.
>> is the right paddle normally di or dah? Also, any pointers on proper
>> techniques for using them? (I'd hate to learn bad habits early in my
>> career. :-)
>
>Actually I think the dit should be on the left paddle, the dah on the
>right one. But to be honest, it really doesn't matter.
>Tony

Well, I guess it depends on which hand you're using. My understanding is
to use the thumb for the dits and the index finger (or whichever other
finger you prefer) for the dahs.

Wolf,
DL3ZBJ, AB6EL, VK6BGV

Date: Mon, 26 Apr 1993 04:36:53 GMT
From: pacbell.com!amdahl!amdcad!amdcl2!brian@ames.arpa
Subject: pro-2006 recall for new improved model
To: info-hams@ucsd.edu

> From: CHRIS RAND
> I have been told that the main indicator of which
> model you have is the dimmer switch. Could someone please explain the
> difference between the Pro-2006 & the Pro-2006A?
> Chris

How to tell the new from the old Pro-2006's:

On front panel, old has "DIMMER," new has "LIGHT."
On back of case, old is model 20-145, new is model 20-145A.

The place that advertises in QST with an 800 number (they don't give their name, but they have an address near Dallas) does not have any of the old 2006's left. BTW, they answer the phone "Radio Shack!"

(Not that I plan to listen to cellular, just that I think that a scanner with a deliberate hole in it's coverage is BROKEN!)

Brian McMinn, N5PSS, brian.mcminn@amd.com

Date: 26 Apr 93 05:52:21 GMT
From: ogicse!uwm.edu!cs.utexas.edu!sdd.hp.com!nobody@network.UCSD.EDU
Subject: Test passed, tickets on the way!
To: info-hams@ucsd.edu

Well, my wife and I took our tests for nocode technician Saturday, 24 April, and we passed!

Lurking around in this group helped me get my bearings in the ham world, so thanks to all of you out there.

And thanks *very* much to Rich Bono, NM1D for his Autoexam program. We ran it on an HP 95LX and it helped us out a bunch.

We also used the Gordon West book and the ARRL Now You're Talking book.

It took us about 5 weeks to study and schedule our exam.

We plan to use a dualband HT to keep in touch with the outside

world while mountain biking. We also are thinking about becoming involved in MARS.

So we'll be talking to you all on the airwaves in about 6-8 weeks!

Craig

--

Craig Bosworth (619) 592-8609
Hewlett-Packard, San Diego Division
craigb@sdd.hp.com

Date: 26 Apr 93 19:05:07 GMT
From: netcomsv!orchard.la.locus.com!prodnet.la.locus.com!lando.la.locus.com!
dana@decwrl.dec.com
To: info-hams@ucsd.edu

References <1993Apr24.110011.23106@anomaly.sbs.com>,
<930425.005606.2i7.rusnews.w165w@garlic.sbs.com>,
<1993Apr26.082419.5909@wvnmvs.wvnet.edu>
Subject : Re: no-code defense

In article <1993Apr26.082419.5909@wvnmvs.wvnet.edu> un027713@wvnmvs.wvnet.edu
writes:

>In article <930425.005606.2i7.rusnews.w165w@garlic.sbs.com>,
system@garlic.sbs.com (Anthony S. Pelliccio) writes:

>> kd1hz@anomaly.sbs.com (Rev. Michael P. Deignan) writes:

>>

>>> miked@nauvax.ucc.nau.edu writes:

>>>

>>>>I am currently a no-code (N7YIR). I plan to upgrade as soon as I am finishe

>>> d

>>>>with school. My wife and I are both full-time students and we have two kids

>>>>so I do not have a lot of "extra" time to study code.

>>>

>>> If you're so busy, how did you have time to study the Element 2 and 3A

>>> question pools?

>>

>> Study? Who said anything about that. It's all rote memorization dude.

>> Same as we did with our 4B's. :)

>

>Not everybody who takes the test memorizes the questions. Some of us like to

>actually understand the theory behind the questions, and, IMHO, was easier

>than memorization.

>

>Lighten up people.

>

First of all, Michael P. Deignan seems to have plenty of time to make inflammatory posts, so you may wish to simply ignore him.

On the other hand, I *did* use the question pool in preparing for my Extra written exam. On a section by section basis, I answered each question, marked any that I had answered incorrectly, and then studied the appropriate material in order to answer the question correctly.

Did I memorize the pool? No. I did the most poorly in the rules/regs section on space operation and I also had to bone up on the antenna patterns. After all, who ever uses that stuff? I did have to memorize some material, since Part 97 is not something you can figure out without a reference.

--

* Dana H. Myers KK6JQ | Views expressed here are *
* (310) 337-5136 | mine and do not necessarily *
* dana@locus.com DoD #466 | reflect those of my employer
*
* This Extra supports the abolition of the 13 and 20 WPM tests *

Date: Mon, 26 Apr 1993 01:14:56 GMT
From: valinor.mythical.com!n5ial!jim@uunet.uu.net
To: info-hams@ucsd.edu

References <20APR93.19314607@nauvax.ucc.nau.edu>,
<1993Apr24.110011.23106@anomaly.sbs.com>, <RFM.93Apr24165314@urth.eng.sun.com>or.
Subject : Re: no-code defense

In article <RFM.93Apr24165314@urth.eng.sun.com> rfm@urth.eng.sun.com
(Richard McAllister) writes:

>Compare that to code which seems to need a half hour *every day* for several
>weeks.

well, that's a bit of an exaggeration.... when I took my Novice class (geez, almost 10 years ago, now), we met once/week during the Fall semester (probably started about mid-way through the semester) at Texas A&M my freshman year. I never had time to touch code outside of class. anyways, by the end of the class, we were all copying 10 wpm code comfortably (the instructor didn't tell us this until after the test...which, btw, he didn't tell us was the test, either...but he was gradually increasing the code speed each week). I remember quite clearly that if anyone failed, it was on the written test the following week...not one single person failed the cw test.

this is not intended to say that people who go for the no-code license are in any way lazy, or lack the initiative to ``go the extra mile'' ... I don't personally support such comments AT ALL. the only thing I'm trying to say here is that with a good instructor, 1/2 hour per WEEK, for several weeks, is all it really takes.

of course, when I started going for my general class, I worked an average of 30 minutes of cw per day (on air), but that was purely by choice (I got hooked pretty quick). and, when I took the code test, I almost passed the 20 wpm test, and almost fell asleep during the 13 wpm test (which, a few months later, happened to me at 20 to 25 wpm...I used to *LIVE* on the 30m band).

the key (no pun intended...sorry) is learning to recognize the SOUNDS and HEAR the letters, as opposed to trying to think along the lines of ``ok, let's see... DIT DAH---that's a dot and a dash, which is, ummm, 'A'....'' the way we were taught was to hear 'A' when DIT DAH was keyed.

>Rich, KD6GZW [yes, no-code, and no-particular-desire-to-learn-it-either]

wait a minute.... I thought the no-code technician license was getting a 1x3 call, just like the w/ code technician and general class folks. doesn't a 2x3 call mean that you started out as a novice? and if so, doesn't that imply that you passed the cw portion? I'm confused (not unusual when talking about the no-code license...I was a general before it even existed, and I've never really looked at the regs for it).

later,
--jim

--
#include <std_disclaimer.h> 73 DE N5IAL (/4)

INTERNET: jim@n5ial.mythical.com | j.graham@ieee.org ICBM: 30.23N 86.32W
AMATEUR RADIO: n5ial@w4zbb (Ft. Walton Beach, FL) AMTOR SELCAL: NIAL

E-mail me for information about KAMterm (host mode for Kantronics TNCs).

Date: 26 Apr 93 17:21:29 GMT
From: concert!rti!jhw@decwrl.dec.com
To: info-hams@ucsd.edu

References <C5yGBp.Iyr@world.std.com>,
<930424.090656.4n7.rusnews.w165w@garlic.sbs.com>,
<93116.153412WKOEHLER@ESOC.BITNET>
Subject : Re: Paddle key question

In article <93116.153412WKOEHLE@ESOC.BITNET> WOLF KOEHLER <WKOEHLE@ESOC.BITNET> writes:

>In article <930424.090656.4n7.rusnews.w165w@garlic.sbs.com>,

>system@garlic.sbs.com (Anthony S. Pelliccio) says:

>>mulvey@world.std.com (Richard K Mulvey) writes:

>>> Can anyone tell me if there is a convention when hooking up paddles: i.e.

>>> is the right paddle normally di or dah? Also, any pointers on proper

>>> techniques for using them? (I'd hate to learn bad habits early in my

>>> career. :-)

>>

>>Actually I think the dit should be on the left paddle, the dah on the

>>right one. But to be honest, it really doesn't matter.

>>Tony

>

>Well, I guess it depends on which hand you're using. My understanding is

>to use the thumb for the dits and the index finger (or whichever other

>finger you prefer) for the dahs.

>Wolf,

>DL3ZBJ, AB6EL, VK6BGV

The convention was set by the forerunner to the electronic key which was the semiautomatic bug, a key that generated dots by means of a mechanism based on spring-loaded contacts that vibrated to generate 10 or 12 dots before fading out.

For right handers, pushing the paddle

to the right with the thumb caused the generation of dots. Pushing

it to the left with the index finger caused the generation of a

continuous dash that lasted as long as the paddle was pressed.

The push-paddle-to-right association with dots was fixed by the

construction of the bug and could not be changed.

Applying this convention to modern keyers,

this would translate to dots on the left paddle, dashes on the

right. Electronic keyers let you reverse this if you wish.

(I hope I have this right. I remember how the bugs were configured -- it is just that I always get left and right confused.)

Joe White RTI, RTP, NC WA4GIR

End of Info-Hams Digest V93 #503
